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BUTZEL LONG				
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ANN ARBOR, MI 48104				
EXAMINER				
MIS, DAVID C				
ART UNIT		PAPER NUMBER		
2817				
NOTIFICATION DATE		DELIVERY MODE		
05/21/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/821,236

Applicant(s)

KITCHING ET AL.

Examiner

David Mis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5, 16-18 and 20 is/are rejected.
7) ☒ Claim(s) 6-15, 19 and 21-23 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/55/06)
Paper No(s)/Mail Date See Continuation Sheet
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date : 0408 / April 8th, 2004 .

1. The drawings are objected to because in Fig. 1, box 2 must be labeled with a descriptive legend; in Figs. 2, 3b, and 6, the photographs must be of sufficient quality so that all the details are reproducible in a printed patent (37 CFR 1.84(b)(1)); and in Figs. 1, 3a, 4, 5 8a-8d, 11a and 11b, shading must be in accordance with 37CFR 1.84 (m). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any

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required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Claims 1-15 are objected to because of the following informalities: In claim 1, line 6, "thorough" should be - - through - -, and "irradiation" should be - - radiation - -. Appropriate correction is required.

3. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows: A claim for priority to a provisional application should be under 35 U.S.C. 119(e). (See MPEP 201.11)

4. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:
The specification to which the oath or declaration is directed has not been adequately identified. See MPEP § 602.

It does not identify the citizenship of each inventor.

It claims priority to a provisional application under 35 U.S.C. 120, rather than under 35 U.S.C. 119(e).

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See MPEP 603.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 16-18 and 20 are rejected under 35 U.S.C. 102(b.) as being clearly anticipated by Chantry et al ('921).

Chantry et al disclosed a method of fabricating compact cells containing alkali atom vapor (Title / Abstract) which comprises the following steps: forming an cell having a volume of 1 cm³ or less (column 4, line 4, "100 cubic millimeters", Fig. 9) and an opening therein (*); filling the cell with alkali atoms (*); sealing the opening of the cell (* column 4, lines 39-40, "The gas cell 45 is a sealed container ...", where a sealed gas-filled container necessarily must have had an opening and have been filled with its contents before it was sealed), wherein the completed cell has at least one window through which radiation can pass in order to react with the alkali atoms within the cell (Fig. 1, column 2, lines 43-45); ... alkali atoms ... (column 2, line 47) ... buffer gas ... (column 5, line 57); ... laser ... (column 6, lines 4-7),

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... photodiode ... (Fig. 1: 11), ... trapping ... (column 2, line 43 to column 3, line 19); ... perpendicular ... (Fig. 1); ... semi-monolithic ... (Fig. 8).

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-5, 16-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chantry et al and in view of Van Bragt. Chantry et al disclosed that said above and did not specify how the cell was filled. At least one method for filling volumes of sealed devices was known

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in the art, given the filled Chantry et al device. It is presumed that Chantry et al simply located the device in an environment with the appropriate ingredients prior to sealing it. Van Bragt disclosed enclosing putting a metal into the device and then enclosing the device in an environment having particular gas content (column 2, line 52 to column 3, line 6). It would have been obvious to one of ordinary skill in the art to have incorporated known filling methods in the Chantry et al device, such as simply sealing the device while it is in an environment made up of the fill contents, and also by putting one part of the fill into the device separately from filling the device from the environment as taught by Ban Bragt, and "motivated" to provide the necessary fill in a device that is said to be filled.

10. Claims 19 and 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Mis whose telephone number

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is (571) 272-1765. The examiner can normally be reached on Monday through Thursday; 7:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Mis/
Primary Examiner, Art Unit 2817